WHAT IS CLAIMED IS:

1. In a computer system having an operating system and one or more devices, a method for testing a device, the method comprising:
   determining a device driver for the device;
   determining a class to which the device driver belongs; and
   performing a diagnostic test based on the class of the device driver.

2. The method of claim 1 wherein the step of determining a device driver occurs while the operating system is active.

3. The method of claim 1 further comprising coordinating access to the device prior to the step of performing a diagnostic test.

4. A method for performing diagnostics on a computer hardware device having a device driver for interfacing with the computer hardware device, the method comprising:
   publishing capabilities of the device driver;
   receiving the capabilities of the device driver; and
   performing a diagnostic test on the computer hardware device, based on the capabilities of the device driver.

5. The method of claim 4 wherein the step of receiving capabilities of the device driver further comprises identifying capabilities of the device driver by a diagnostic module.

6. The method of claim 4 further comprising coordinating access to the computer hardware device prior to the step of performing a diagnostic test.

7. The method of claim 5 wherein the step of performing a diagnostic test further comprises testing the computer hardware device using the diagnostic module.

8. The method of claim 4 further comprising determining the device driver is for interfacing with the computer hardware device.

9. The method of claim 4 wherein the step of publishing capabilities of the device driver further comprises broadcasting that the device driver is capable of accessing

12

3 the computer hardware device in parallel with a diagnostic module after allocating an area of

4 the computer hardware device for testing.

1   10. The method of claim 4 wherein the step of publishing capabilities of

2 the device driver further comprises broadcasting that the device driver is capable of accessing

3 the computer hardware device in parallel with a diagnostic module if the device driver is

4 notified by the diagnostic module when testing is complete.

1   11. The method of claim 4 wherein the step of publishing capabilities of

2 the device driver further comprises broadcasting that the device driver is capable of accessing

3 the computer hardware device in parallel with a diagnostic module if the device driver is off-

4 line.

1   12. The method of claim 4 wherein the step of publishing capabilities of

2 the device driver further comprises broadcasting that the device driver is capable of being

3 passed through to access the computer hardware device.

1   13. The method of claim 4 wherein the step of publishing capabilities of

2 the device driver further comprises broadcasting that the device driver is capable of being

3 passed through when in diagnostic mode to access the computer hardware device.

1   14. The method of claim 4 wherein the step of publishing the capabilities

2 of the device driver further comprises broadcasting that only diagnostics embedded in the

3 device driver may perform diagnostics on the computer hardware device.

1   15. The method of claim 1 further comprising allocating an area of the

2 device for testing the device.

1   16. The method of claim 15 wherein the step of performing a diagnostic

2 test is done directly on the area allocated, and further comprises the step of releasing the area

3 allocated when the test is concluded.

1   17. In a computer system having an operating system and at least one

2 hardware device, a diagnostic hardware access layer interface for performing diagnostics, the

3 interface comprising:

4   a device driver belonging to a class of device drivers for managing the

5 hardware device;

6   a kernel module for communicating with the device driver and the operating

7   system; and

8   a diagnostic module for coordinating with the kernel module and/or the device

9   driver in order to perform diagnostics on the hardware device.

1   18.   The interface of claim 17 wherein the device driver is capable of

2   publishing the class to which it belongs.

1   19.   The interface of claim 17 wherein the kernel module identifies the

2   class of the device driver.

1   20.   The interface of claim 17 wherein the device driver is capable of

2   accessing the hardware device in parallel with the diagnostic module.

1   21.   The interface of claim 17 wherein the kernel module is capable of

2   determining whether diagnostics are performable on the hardware device.

1   22.   The interface of claim 17 wherein the class of the device driver is

2   dependent on the hardware device.

1   23.   The interface of claim 17 wherein the class of the device driver is

2   dependent on the mode of the device driver.

1   24.   The interface of claim 17 wherein the class of the device driver is

2   dependent on both the mode of the device and the hardware device.

1   25.   The method of claim 4 wherein the step of publishing the capability of

2   a device driver further comprises broadcasting that the device driver is capable of accessing

3   the computer hardware device in parallel with a diagnostic module

1   26.   A system for testing one or more devices attachable to a computer

2   system, comprising:

3   a device access kernel, wherein said device access kernel is capable of

4   identifying a device driver associated with a device and determining what class said device

5   driver belongs to; and

6   a plurality of diagnostic tests designed to respectively test said one or more

7   devices;

14

8   wherein said device access kernel selects one of said plurality of diagnostic

9   tests for testing said device based on said determined class.